

APPENDIX I: AVCARB 1071 HCB TECHNICAL SPECIFICATIONS**Yarn Filament Properties:**

Grade(s)	HC	HCB	Representative AvCarb™ Carbon Fabric Applications:	
Diameter (microns):	7.5	7.5	Fabric Designation	Application
Cross-section :	Round	Round		
Density (gm/cc) :	1.72 - 1.75	1.75 - 1.77		
Surface Area (gm/M²) :		0.62		
Tensile Strength kN/cm² (ksi) :	210 (300)	192.5 (275)		
Tensile Modulus mN/cm² (msi) :	21 (30)	26.6 (38)	1209 HC	Ablative Insulation (Solid Fuel Rocket Motors)
Elongation @ Break (%) :	1.0	0.72		
Electrical Resistivity (ohm-cm) :	Controllable	1.1 x 10³	1209 HCB	High Temperature Furnace Hardware Reinforcement
Thermal Oxidative Stability : (wgt. loss/hr @ 500°C in air)	Oxidizes	<1.0		
Carbon Content (%) :	88 - 95	99.5	1243 HCB	Friction (Motion Control)

Typical AvCarb™ Fabric Styles / Grades:

Fabric Style	1071	1209	1243	1500	1580
Grade(s) :	HCB	HCB*	HCB*	HCB*	HCB*
Weave Construction :	Plain	Plain	Plain	5 Harness Satin	8 Harness Satin
Weave Count :					
Warp - per cm	17.3 - 21.3	9 - 10.6	11 - 12.6	9.8 - 13.8	10.2 - 14.2
Fill - per cm	16.5 - 20.5	7.1 - 7.9	10.6 - 11.4	9.0 - 13.0	9.5 - 13.5
Basis Wt. - gm/m² :	105 - 125	270 - 330	200 - 240	319 - 387	340 - 404
Thickness - microns :	280 - 432	675 - 825	650 - 750	675 - 1040	675 - 1040
Width - cm :	117	117	107	117	117
Availability :	Inventory	Inventory	Inventory	Special Order	Special Order

* Also available in HC grade

(available at http://www.ballard.com/resources/carbon_fiber/BMP_AVCARB_FABRICS_10.04.pdf)